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PHYTOPHTHORA LEAF SPOT OF PHILODENDRON

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Heart-leaf philodendron (Philodendron oxycardium Schott) is one of the most popular ornamental foliage plants with an annual value of 3.5 million dollars to Florida nurserymen (C. N. Smith, personal communication).

Leaf spotting caused by Phytophthora parasitica Dast. (syn. P. nicotianae B. de Haan var. parasitica (Dastur) Waterh.) appears frequently in ground stock beds and can result in defoliation with a subsequent reduction in stem cuttings for propagation. Although this leaf spotting disease was reported in 1963 (6), the specific identity of the pathogen and details of disease development were not determined until recently (8). Since this fungus may persist in the soil (9), it is easily splashed onto leaves near the ground by rain or irrigation water (fig. 1).

SYMPTOMS. Under high moisture conditions favorable for infection, the disease first develops as irregular water-soaked spots varying in size from 2-20 mm in diameter within 3-5 days (fig. 2A). Under low moisture conditions, the spots turn brown and develop yellow halos (fig. 2B). Infection of the stems of non-rooted cuttings occurs when cuttings are placed in an infested rooting medium (8). Roots of established plants do not appear to be attacked.

Fig. 1. Ground stock bed of P. oxycardium showing Phytophthora leaf spotting near walkway.

Fig. 2. Phytophthora leaf spotting of philodendron: A) water-soaked, B) brown with yellow halo.

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The fungus may also infect the leaves of other species of philodendron (P. selloum, P. panduraeforme, and 'Red Emerald') as well as the related Monstera deliciosa. The disease has not been found on P. micans.

P. parasitica is an important plant pathogen in Florida on other ornamental hosts such as bougainvillea (1), Christmas cactus (2), aloe (3), gypsophila (4), and petunia (7). The variability in pathogenicity of this fungus, as well as its potential for variability, makes P. parasitica a very important soil-borne plant pathogen (8).

CONTROL. Since leaf spotting is more severe on plants in ground beds than on those in raised benches, and more prevalent near walkways where splashing of soil may occur (5), the disease can often be avoided by eliminating ground plantings or, where this is not possible, by mulching walkways to prevent soil splashing.

If chemical control is necessary, captan (2 lb/100 gal) plus a spreader-sticker, Daconil (1 1/2 lb/100 gal), and Dithane M45 (2 lb/100 gal) plus a spreader-sticker have all proved satisfactory as foliage protectants (5,8).

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